

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1, 4-11, and 63 are pending in this case. Claims 2, 3, and 12-62 are canceled without prejudice or disclaimer. Claims 8-11 are withdrawn from further consideration. Claims 1 and 4-7 are amended and new Claim 63 is added by the present amendment. Amended Claims 1 and 4-7 and new Claim 63 are supported by the original claims and specification,¹ and therefore add no new matter.

The outstanding Official Action rejected Claims 1-7, 12-18, and 36-42 under 35 U.S.C. §103(a) as unpatentable over Aoki et al. (Japanese Patent Publication No. 11-038348, herein “Aoki”).

Claims 2, 3, and 12-62 are canceled, making the outstanding rejection moot with respect to these claims.

With regard to the rejection of Claim 1 under 35 U.S.C. §103(a) as unpatentable over Aoki, the rejection is respectfully traversed.

Amended independent Claim 1 recites a scanning image formation optical system comprising:

two or more optical elements, at least two different elements of the two or more optical elements each having at least one special tilt surface, each said tilt surface formed such that a tilt amount of a sub-scanning cross-sectional configuration changes in a main scanning direction, each special tilt surface formed so as to correct a scanning line curvature and a wavefront aberration on the scanned surface, one special tilt surface having a different change in a tilt amount in the main scanning direction from another special tilt surface, a first special tilt surface partially correcting a scanning line curvature and a wavefront aberration, and a last special tilt surface further correcting scanning line curvature and reducing a remaining wavefront aberration to a tolerable level.

¹ See specification at paragraphs 124-125, page 21, lines 21-31.

Aoki discloses a scanning image forming optical system for correcting the bend of a scanning line on a surface to be scanned.² In contrast, the claimed invention includes two or more special tilt surfaces configured to *simultaneously correct different types of optical errors*. Namely, the invention recited in Claim 1 is configured to correct both scanning line curvature and wavefront aberration.

Aoki discloses a first embodiment comprising a single image forming mirror 7 having a reflection surface shown in Figure 3.³ Aoki further discloses a second embodiment having a first element 7' and second element 8.⁴ The surface of element 8 is shown in Figure 10 of Aoki. The outstanding Office Action on the bottom of page 3 characterized the above embodiments of Aoki as providing additional degrees of freedom for correcting aberrations. However, it is respectfully submitted that the invention recited in Claim 1 does not simply provide additional degrees of freedom, but corrects both scanning line curvature and wavefront aberration. Thus, it is respectfully submitted that Aoki does not teach or suggest “a last special tilt surface further correcting scanning line curvature and reducing a remaining wavefront aberration to a tolerable level,” as recited in Claim 1.

Further, it is respectfully submitted that Aoki achieves the entire described correction in the bend of a scanning line using one optical element, for example, a light pass bending mirror or an imaging lens. In contrast, the invention recited in Claim 1 includes at least two tilt surfaces, each configured to partially correct optical errors. Accordingly, it is respectfully submitted that Aoki does not teach or suggest “a first special tilt surface partially correcting a scanning line curvature and a wavefront aberration,” as recited in Claim 1.

Finally, the invention recited in Claim 1 includes at least special two tilt surfaces having a different change in a tilt amount in the main scanning direction to allow adjustment of a relation between the two tilt amounts. This allows multiple optical errors to be

²See Aoki, Problem to be Solved.

³Aoki, Figures 1 and 2a.

⁴Aoki, Figure 9.

simultaneously corrected. In contrast, Aoki states only that a bend in a scanning line is corrected. It is further respectfully submitted that Aoki does not teach or suggest "one special tilt surface having a different change in a tilt amount in the main scanning direction from another special tilt surface," as recited in Claim 1.

Consequently, since Aoki does not teach or suggest each and every element of Claim 1, Claim 1, and Claims 4-7 and 63 dependent therefrom, is patentable over Aoki.

Further, it is respectfully requested that withdrawn Claims 8-11 be reinstated and allowed, as generic Claim 1, from which Claims 8-11 depend, is believed to be patentable.

Accordingly, the outstanding rejection is traversed and the pending claims are believed to be in condition for formal allowance. An early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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